Lane Keep Assist

The stereo cameras detect lane markings (including Botts’ dots) of the lane and the system assists the steering operation by working with the electric power steering to help keep your vehicle in its lane when driving on expressways, freeways and interstate highways.

**WARNING**

Lane Keep Assist is not an automatic driving system. Do not overestimate the capabilities of Lane Keep Assist. It is not a system to assist inattentive driving or meant to permit driving without holding the steering wheel. Make sure to grip the steering wheel while driving. To drive safely, check the distance from the vehicle in front or from a vehicle driving in parallel with your vehicle, the surrounding conditions and the surrounding environment while driving.

If you feel that the level of control and timing by the system are different from your own driving style, the system may not support safe driving. Do not use Lane Keep Assist.

Lane Keep Assist does not always operate under all situations. If you rely only on the Lane Keep Assist to stay in a lane, it may cause an accident such as a collision with an obstacle beside your lane or with a vehicle driving in an adjacent lane.

- Check that there are problems with the tires and brakes during a daily inspection before using the system.
  ⇒ Refer to “Warranty and Maintenance Booklet”.
- The system may not operate properly under the following conditions. Do not use Lane Keep Assist.
  - The air pressure of tires is not to specification. *1
  - Tires that are worn or have large variations in wear conditions are installed. *1
  - Tires other than those of the designated size are installed. *1
  - The wheel balance is abnormal (e.g., the balance weight is removed or misaligned.) *1
  - The wheel alignment is not adjusted within the specified value. *1
  - Flat tires have been fixed temporarily with a tire repair kit.
  - The suspension has been modified (including genuine SUBARU parts).
Lane Keep Assist

- Any object that disturbs the stereo cameras’ view is installed on the vehicle.
- Tire chains are installed.
- When you feel an abnormal vibration in the steering wheel or feel the steering wheel is heavier than usual.
- The steering wheel has been replaced with parts other than genuine SUBARU parts.
- The headlights are dirty or they have snow, ice or dirt on them. (Objects are not adequately illuminated and are difficult to detect.)
- The headlights are not aligned correctly. (Objects are not adequately illuminated and are difficult to detect.)
- The headlights and fog lamps, and other lights, have been modified.
- Vehicle operation has become compromised due to an accident or malfunction.
- The brake system warning light (red) is illuminated.
- A heavy cargo is loaded onto or inside the vehicle.
- The maximum number of occupants is exceeded.
- Your vehicle is towing a vehicle, etc.
- There is something wrong with the combination meter. For example, an indicator light or a warning light in the combination meter does not properly turn on or off, a beep does not sound, or the indication on the liquid-crystal display is different from when it is normal.*2
*1: The wheels and tires have critically important functions. Be sure to use the appropriate ones.
   For details, refer to the Owner’s Manual for your vehicle.
*2: For details about the functions and operations of the combination meter, refer to the Owner’s Manual for your vehicle.

- Lane Keep Assist is designed for use on expressways, freeways, toll roads, interstate highways and similar limited access roads. In the following conditions, do not use Lane Keep Assist. Doing so may result in an accident.
- Ordinary roads (roads other than those mentioned above)
- Roads with sharp curves
- Roads with lane restrictions or tentative lanes due to construction work, etc.
- Old lane markings remain.
- Snow, puddles or snow melting agents remain on the road surface.
- Cracks or constructed traces remain on the road surface.
- Frozen roads, snow-covered roads or other slippery road surfaces
  The tires may spin, causing loss of control of the vehicle.
- When entering a sharp curve into an interchange or junction, or a service
  area, parking area, toll booth or other facilities.
- When there are changes in brightness, such as at a tunnel entrance or
  exit.
- When visibility is poor due to sand, smoke or water vapor blowing in the
  wind, or when the vehicle in front or oncoming traffic causes water,
  snow, dirt or dust to obscure the view.
- When there is snow, frost, dirt or dust on the windshield or it is clouded.
- When water droplets from rain or dirt have not been fully wiped off on the
  windshield.
  It may not be possible to detect the lane, making correct control impossi-
  ble.
- When the stereo cameras’ field of view is obstructed (for example by a
  canoe on the roof of the vehicle).
- The stereo cameras may have difficulty detecting the objects under the
  following conditions and the system may not operate properly.
- When driving at night or in a tunnel without the headlights on.
- When light is poor in the evening or early morning.
- In bad weather (for example, rain or snow)
  - The distance between your vehicle and the vehicle in front is short, mak-
    ing it difficult to detect lane markings.
- When a vehicle intruded from an adjacent lane or the vehicle in front
  changed lanes.
- The shape of a curve in the road suddenly changes.
- Shadows of guardrails or similar objects are overlapped on the lane
  markings.
- When your vehicle is exposed to a strong light from the front (backlight
  from the sun, headlights, etc.).
- The width of a lane is narrow.
- The stereo cameras may have difficulty detecting the lane due to the per-
  formance of the cameras.
  - There are no lane markings or they are very worn.
  - The lane markings are painted in yellow.
  - It is difficult to detect lane markings because they are similar in color to
    the road surface.
  - The lane markings are drawn in double.
  - The width of lane markings is narrow.
  - The indicated lines for the area are touched to walls and poles.
- The shape of lane markings suddenly changes (entrance/exit of a curve,
  crank and S-shaped road, etc.).
- There is curb or side wall in the road shoulder.
- The brightness changes such as when you drive under an overpass.
• The performance of Lane Keep Assist may not be optimal under the following conditions. In addition, Lane Keep Assist may not operate or the operation may be canceled.
  - Immediately after the weight of your vehicle changes radically
  - Immediately after the replacement of a tire or the adjustment of tire pressure
  - Immediately after the adjustment, repair or replacement of cameras or related components
  - Immediately after the repair or replacement of the suspension or steering system
  - A winter tire or a tire other than a genuine SUBARU tire is used.
  - The vehicle is in a crosswind.
  - The road grade abruptly changes (uphill or downhill).
  - The grade of the crossing direction in a road is large or changes abruptly.
  - Unevenness, winding and joint of a road surface
  - The acceleration/deceleration is high.
  - Immediately after starting the engine when the outside temperature is low.
  - The outside temperature is high.
• When you do not use Lane Keep Assist, make sure to turn off the \(\text{Lane Keep Assist} \) switch. If you turn it on, the function may operate unexpectedly, causing an accident.
• If you turn on the \(\text{Lane Keep Assist} \) switch, the operation power of electric power steering may change.
Lane Keep Assist

**Lane Departure Prevention Function**

The system detects lane markings in order to help prevent departure from the lane. If you drive on expressways, freeways or interstate highways at speeds above approximately 40 MPH (65 km/h) and the vehicle is about to depart from the lane, the system assists the steering operation by turning it to the direction that will help prevent the lane departure.

- How to use Lane Departure Prevention Function

Press the (Lane Keep Assist) switch.

Lane Keep Assist is turned on, and " (Lane Keep Assist indicator) (white) is displayed on the EyeSight display area of the multi information display.
Press the (Lane Keep Assist) switch once again to turn it off, and " " (Lane Keep Assist indicator) is turned off on the EyeSight display area.

The Lane Departure Prevention Function goes into the standby status, and the lane indicator illuminates when all of the following conditions are met.

- The vehicle speed is between approximately 40 MPH (65 km/h) and 90 MPH (145 km/h).
- The system is detecting the lane markings.
- The driver is holding the steering wheel.
- When driving on a road that has a lane width that is between approximately 10 ft (3 m) and 15 ft (4.5 m).
- When driving on a straight road or gentle curve.
- When driving near the center of a lane.

When the vehicle is about to depart from the lane, Lane Departure Prevention Function starts to operate and " " (Lane Keep Assist indicator) illuminates in green while it is operating.

### NOTE

- If you just lightly put your hands on the steering wheel for a certain period of time or if you do not operate the steering wheel, the function will automatically be canceled. (" " Lane Keep Assist indicator) illuminates in white again.
- Lane Departure Prevention Function operates when the system determines that the vehicle will depart from the lane if you continue to drive in the same manner. Therefore, it operates at an earlier timing than Lane Departure Warning (⇒ Refer to page 68.) (it may depend on the surrounding environment and road condition).
- The lane indicator in the standby status and in operation may illuminate only on the left side or right side.
Canceling Lane Departure Prevention Function

- Cancellation by the operation of a driver (In case no beep sounds)
  The following operation cancels Lane Departure Prevention Function.
  If the function is canceled, " " (Lane Keep Assist indicator) and the lane indicator are turned off on the EyeSight display area.
  - Press the (Lane Keep Assist) switch.

Either of the following operations temporarily cancels the Lane Departure Prevention Function. While temporarily canceling the function, " " (Lane Keep Assist indicator) on the EyeSight display area illuminates in white and the lane indicator is turned off.
  - Depressing the brake pedal
  - Operating the turn signal lever
  - When the system determines that the driver operates the steering wheel to make a lane change.
  - When the driver depresses the accelerator pedal deeply.
  - Turning on the hazard warning flasher switch

- Automatic cancellation by the system (An audible beep will sound.)
  Under the following conditions, a beep sounds and the Lane Departure Prevention Function is temporarily canceled.
  While the function is temporarily canceled, " " (Lane Keep Assist indicator) on the EyeSight display area illuminates in white and the lane indicator is turned off.
  - When the system cannot detect the lane.
  - The windshield wiper operates at a high speed.
  - The vehicle speed is less than approximately 37 MPH (60 km/h) or is more than approximately 93 MPH (150 km/h).
  - The ABS, the Vehicle Dynamics Control or the Traction Control System operates.
  - Either the driver’s door, the front passenger’s door or the rear door is open.
  - The seatbelt of driver’s seat is unfastened.
  - The electronic parking brake is applied (The electric parking brake indicator light illuminates or blinks).
  - The select lever is shifted to a position other than or position.
  - The system could not detect the steering operation by the driver for a certain period of time.
    - When the system detected no steering operation, the interruption screen appears on the multi information display. The interruption screen continues to appear until the system detects the steering operation.
      - If the system still cannot detect the steering operation, the Lane Departure Prevention Function is automatically canceled.
Lane Keep Assist

- When entering a sharp curve.
- When driving on a sharp curve.
- When the system determines that the steering assistance is difficult to continue due to the road condition.
- When the system determines that the steering assistance is difficult to operate due to another system.
- When the EyeSight system is temporarily stopped. (" " (EyeSight Temporary Stop indicator: White) is turned on.)
  ⇒ Refer to page 86.
- When the EyeSight system has a malfunction. (" " (EyeSight Warning indicator: Yellow) is turned on.)
  ⇒ Refer to page 87.

**NOTE**

If the function is automatically canceled during the standby status (" " (Lane Keep Assist indicator) illuminates in white), no beep sounds.